I Quit? A predictive analysis

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Outline

- Brief Overview
- Variable Investigation
  - Regression
  - Flow Chart
- The model
- Recommendations

What's up, Data?

- Total Churns: 24%
- 60% of people:
  - Scored above 0.65*
- 50% of people:
  - Are 65% satisfied**
  - Work 200+ hours/month

Department Overview

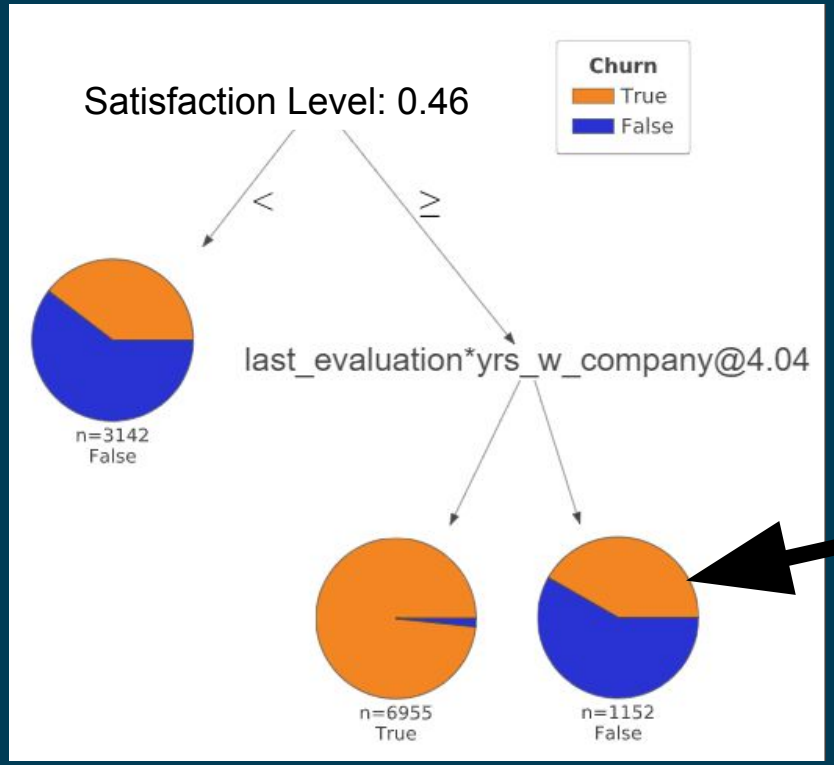
department	satisfaction_level	last_evaluation	number_project	avg_monthly_hrs	yrs_w_company	churn	promotion_last_5years	salary
IT	0.618142	0.716830	3.816626	202.215974	3.468623	0.222494	0.002445	1.571312
RandD	0.619822	0.712122	3.853875	200.800508	3.367217	0.153748	0.034307	1.602287
accounting	0.582151	0.717718	3.825293	201.162973	3.522816	0.265971	0.018253	1.629726
hr	0.598809	0.708850	3.654939	198.684709	3.355886	0.290934	0.020298	1.607578
management	0.621349	0.724000	3.860317	201.249206	4.303175	0.144444	0.109524	2.071429
marketing	0.618601	0.715886	3.687646	199.385781	3.569930	0.236597	0.050117	1.624709
product_mng	0.619634	0.714756	3.807095	199.965632	3.475610	0.219512	0.000000	1.575388
sales	0.614447	0.709717	3.776329	200.911353	3.534058	0.244928	0.024155	1.557971
support	0.618300	0.723109	3.803948	200.758188	3.393001	0.248991	0.008973	1.549125
technical	0.607897	0.721099	3.877941	202.497426	3.411397	0.256250	0.010294	1.569485

But, I Regress

A Regression analysis showed that the following had a heavier effect on the churn rate (in this order)

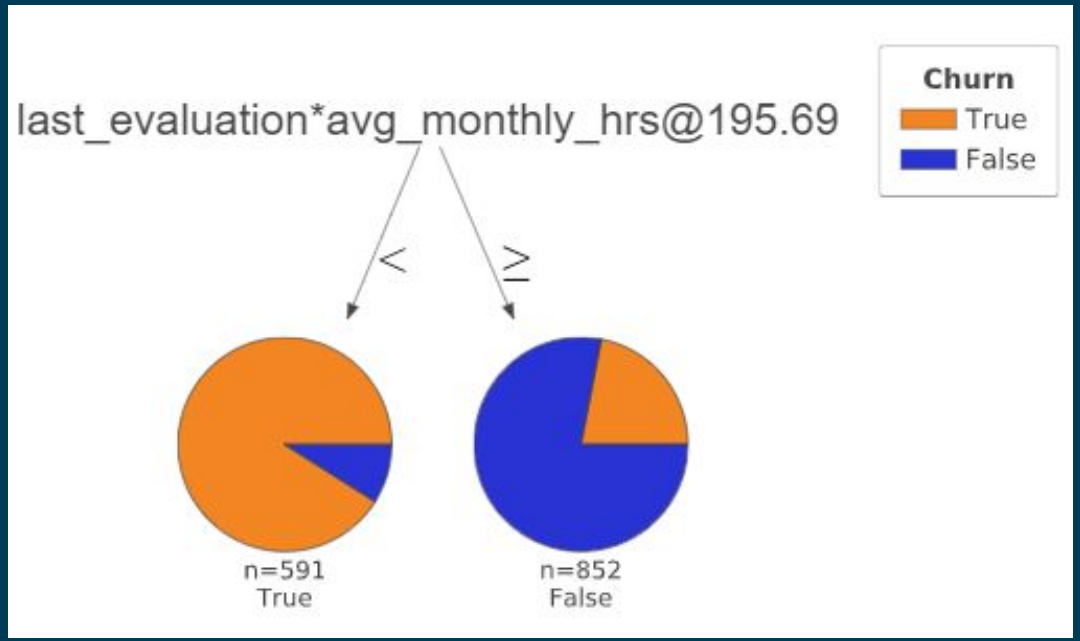
a. Satisfaction Level
b. Years with Company
c. Last Evaluation
d. Salary

That Flow, though



High performers

High Performance!



Model Overview

- 97% Accuracy for True predictions vs. missed predictions
- Model/Code to be sent via email after this presentation

Recommendations

- Track differences in evaluation and satisfaction scores between periods of measurement
- Keep track of those with higher evaluation scores who's hours start to drop
- Avoid giving higher scorers a heavier workload
- One of the heaviest trackers of leaving is
  - Satisfaction Level * Years with Company
  - Consider more incentive for these individuals to stay - perhaps they are moving on
  - Gather Demographic data

THANK YOU